



D4.3 Report on pilot case study 3:
e.s. estimation of carbon stock in forest
products executive summary

MAIL: Identifying Marginal Lands in Europe and strengthening their contribution potentialities in a CO2 sequestration strategy

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¹ **R** = Report, **P** = Prototype, **D** = Demonstrator, **O** = Other

² **PU** = Public, **PP** = Restricted to other programme participants (including the Commission Services), **RE** = Restricted to a group specified by the consortium (including the Commission Services), **CO** = Confidential, only for members of the consortium (including the Commission Services).

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ABBREVIATIONS

Term	Explanation
AGB	Above-Ground Biomass
BCEF	Biomass Conversion and Expansion Factors
BCEFs _s	Biomass Conversion and Expansion Factors of merchantable growing stock volume to above-ground biomass
BTU	British Thermal Unit
CF	Carbon Fraction
ODBH	Diameter at breast height (cm)
Dg	Mean square diameter (cm)
dM	Thick log diameter (cm)
dm	Thin log diameter (cm)
G	Basal area (m ² per hectare)
GDP	Gross domestic product
GVA	Gross value added
Hm	Mean stand height (meters)
<i>H_o</i>	Dominant stand height (meters)
HWPs	Harvested Wood Products
IPCC	Intergovernmental Panel on Climate Change
L	Log length (m)
MLs	Marginal Lands
MS	Member State
N	Number of trees per hectare
SI	Site Index

Vol

Stand tree wood volume (m³ per hectare)

Vol+bark

Stand tree wood and bark volume (m³ per hectare)

Contents

MAIL Consortium	3
Abbreviations	4
Executive Summary	7

EXECUTIVE SUMMARY

At this report an analysis of the estimation of carbon stock in forest products is taking place, in the content of harvested timber. Wood is converted to products where the carbon content is remaining stored though the product's life time. While the product is changing use/ form the carbon is still stored and is emitted to the atmosphere only when it is burned or deposited in landfills where they slowly decay.

In **chapter 1** the basic goals of this Task are presented.

In **chapter 2** the basic types and characteristics of wood products are described, according to the Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018, taking into account the IPCC Guidelines. At a second level the wood products are described in more detail for the four Member States (MS) that participate in the project; Germany, Greece, Poland and Spain.

In **chapter 3** the methodology that is used for carbon calculation in wood products is described. Specific species were selected for each country, based on ecological zones and sites quality, for possible afforestation projects in the detected marginal lands of T2.3. After literature review, proper existing yield tables were selected in order to predict wood growth over time. Based on that, specific periods of thinnings were defined per country and species. The carbon stock of these Harvested Wood Products (HWP) was then estimated based on the destination of the harvested wood from MLs plantings.

In **chapter 4** the lifespan of wood products from MLs is described. Once the amount of forest product has been calculated, the useful life of these products can be calculated with the equation included in ANNEX III of European Decision 529/2013. These HWPs were assigned specific average half-life values; 2 years for paper, 25 years for wood panels and 35 years for sawn wood. A further analysis per participating MS was implemented, based on the previous findings.

In **chapter 5** a market study in primary wood-processing industries is presented based on statistics of EU-27 in a European level and in participating MS also.

At the end in **chapter 6** summary and conclusions are presented, based on the findings of this report.